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REMARKS

Reconsideration is requested in view of the above amendments and the following remarks. Claim 1 has been revised. Support for the revisions can be found at, e.g., Fig.

2A. Claims 1-12 remain pending in the application.

Claims 1-12 are rejected under 35 USC § 103(a) as being obvious over Kunii et al. (US 4,181,120) in view of Drinkwater et al. (US2004/0254470). Applicants respectfully traverse this rejection.

Claim 1 recites a metal portion including a part that is embedded in an inside of a resin portion and another part that is not covered with the resin portion. This arrangement helps couple the frame and the window more stably and thus prevents leakage of an acoustic propagation medium and suppresses the intrusion of bubbles. As a result, reliability of the ultrasonic probe has been effectively increased (see, e.g., paragraph [0009] of the specification, among other places).

Kunii et al. fail to teach or suggest a metal portion including a part that is embedded in an inside of a resin portion and another part that is not covered with the resin portion, as recited in claim 1. On the other hand, Kunii et al. discuss a frame portion 23 that comprises an internal frame member 21 of a rigid reinforcing material such as a metal plate covered by an elastic film 22, where the film 22 appears to be made of resin material (see Kunii et al., col. 3, lines 27-36, and Fig. 2). As clearly shown in Fig. 2a of Kunii et al., the internal frame member 21 is completely covered by the elastic film 22. Nowhere do Kunii et al. teach or suggest a metal portion including a part that is embedded in an inside of a resin portion and another part that is not covered with the resin portion, as recited in claim 1.

Drinkwater et al. do not remedy the deficiencies of Kunii et al. Instead, Drinkwater et al. merely discuss a probe assembly 2 that includes an axle 12 upon which an array of ultrasonic transducers 14 is mounted in such a configuration as to point towards a surface under investigation, where first and second end pieces 16 and 18 are rotatably mounted on the axle 12 by way of bearings 20 (see Drinkwater et al., Fig. 2 and paragraph [0037]). Drinkwater et al. also discuss a coupling element 28 that is engaged with the first and second end pieces 16 and 18, where the coupling element 28, the first

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end piece 16 and the second end piece 18 together define a transducer cavity 30 (see Drinkwater et al., paragraph [0037] and Fig. 2). Drinkwater et al. are completely silent as to a metal portion including a part that is embedded in an inside of a resin portion and another part that is not covered with the resin portion, as recited in claim 1. In fact, in Drinkwater et al., the axle 12 where the array of transducers 14 are mounted is an ultrasonic device, rather than a frame as suggested by the rejection.

The present record provides no teaching or suggestion of the metal portion as recited in claim 1, much less any reason to expect that the advantages enjoyed by claim 1, for example, helping couple more stably the frame and the window and preventing leakage of an acoustic propagation medium and suppressing the intrusion of bubbles, could be achieved.

For at least these reasons, claim 1 is patentable over Kunii et al. in view of Drinkwater et al. Claims 2-11 depend from claim 1 and are patentable along with claim 1 and need not be separately distinguished at this time. Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claims.


In view of the above, favorable reconsideration in the form of a notice of allowance is respectfully requested. Any questions regarding this communication can be directed to the undersigned attorney, James A. Larson, Reg. No. 40,443, at (612) 455-3805.

Respectfully submitted,



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